

Dirty, Dangerous Diesel

Diesel engines are everywhere you look. Trucks, buses, tractors, bulldozers, generators, even ships and locomotives--diesel powers much of the work we depend on.

Commonplace as they are, diesel engines remain one of the dirtiest ways to power anything. Diesel emissions are a major source of particle pollution and the gases that make ozone.¹ Unlike the family car, diesel engines have not had to get significantly cleaner. And unlike that family car, they often last for decades.

Historic changes are already in the pipeline that will produce new, cleaner, diesel engines. The dilemma of diesels is that the old, dirty ones still in use will be with us--spewing pollution and threatening lives--for years to come.

- New heavy-duty trucks and buses will be required to add control devices that will make their engines dramatically cleaner beginning in 2007. These engines must produce 95 percent less pollution by 2010. Diesel fuels for these trucks and buses will be cleaned up beginning in 2006 by 97 percent.²
- Heavy equipment like tractors and bulldozers, generators, and pumps will be cleaner, too, beginning with the smallest engines in 2008 and progressing to the largest engines in 2015. Fuels for these engines must also be cleaner, beginning in 2007. These fuels have long been much dirtier than that used in trucks and buses³

Some in industry are trying to get around having to make these changes, by pushing for weaker requirements or delaying the dates even longer. The American Lung Association opposes any delays in these deadlines or changes that allow dirty diesels to keep polluting.

Still, many sources of toxic diesel pollution remain untouched. While the fuels for diesel locomotives and marine vehicles are going to be 99 percent cleaner, their engines are still polluting with minimal controls. In May, 2004, EPA began taking comments on possible requirements for cleaning up these engines by some 90 percent, similar to the requirements for other diesel engines.⁴ To date, EPA has not issued rules enabling the work to begin to clean up these sources.

But the largest remaining diesel sources are the diesel engines in place today. Those trucks, buses, bulldozers, tractors, and generators will be around for a long, long time. Heavy duty trucks, for instance, last on average over 25 years⁵ and will continue to pollute with every mile. Buses, tractors, and other heavy equipment, not to mention locomotives and marine vessels, also have long lifetimes.

Governments can take many steps now to reduce the pollution from existing diesel exhaust:

- Replace existing mufflers with cleaner technology, including filters and catalysts, that can clean up existing vehicles.
- Require ultra low sulfur diesel and cleaner alternative fuels.

- Eliminate exhaust from entering the cabin of school buses and transit buses by using closed ventilation systems.
- Fund programs to help equipment owners, including cities and states, replace or rebuild their dirty engines.
- Adopt anti-idling ordinances for school buses, heavy duty trucks, and other diesel vehicles.⁶

It will take decades for the existing fleet to be replaced with cleaner vehicles. Now is the time to clean up these dinosaurs. We cannot afford to wait.

Conclusion

In its 35-year history, the Clean Air Act has proven its worth many times over. Thanks to the protections written into that law, we have reduced the burden of air pollution on those people most at risk. The air is cleaner than it was when the Act was first written in 1970. However, cleaner is not clean enough. Documented in the *American Lung Association State of the Air 2005* report is strong evidence that dangerously unhealthy air is still an unfortunate reality for much of the nation. We must do more to reach the day when the air is consistently safe for all Americans to breathe.

The American Lung Association encourages everyone to take individual steps to combat air pollution and to support national, state and local efforts to clean the air. Reduce your driving by combining trips, walking, biking or carpooling. Turn off your lights and use power-saving appliances to keep electric power production down. Don't burn wood or trash. These simple things can make a difference as we join forces to curb air pollution.

But your actions alone aren't enough. Let the political leaders in our city, county and state know you support steps to clean up the air. Many communities have begun planning to reach national standards for ozone and particle pollution. Let your local and state officials know you support strong measures to clean up the biggest polluters, especially dirty diesel and coal-fired power plants.

Finally, the Clean Air Act itself needs your help. Let your members of Congress know that the Clean Air Act works and they should not pass bills that would weaken its protections or allow polluters to delay cleaning up their problems. Urge them to oppose the Administration's power plant bill (S.131), which would allow the oldest, dirtiest plants to pollute more and longer than the existing law would. Log on to www.lungusa.org to send them that message.

Over 152 million people live in areas of the United States where the air quality puts their health at risk. These are our children, our parents, our families, our neighbors and our friends. Too many people remain at risk and there is much we can do to protect them to turn back the clean air clock now. The American Lung Association pledges to continue fighting for clean air for everyone.

Air Quality

Vehicle exhaust emissions are a leading cause of air pollution in Kansas City. Excessive vehicle idling can significantly increase exhaust emissions. Idling is not only a waste of fuel and money; it's also a major source of VOC and NO emissions that contribute to our ozone problem.

Eliminating unnecessary idling is a no cost way to help reduce air pollution in the Kansas City area.

Below are a few facts regarding vehicle idling:

- Once a vehicle is running, the best way to warm it up is to drive it. With computer controlled, fuel-injected engines, you need no more than 30 seconds of idling on winter days before driving away.
- In the winter, emissions from an idling vehicle are more than double the normal level immediately after a cold start.
- The catalytic converter (the device that cleans pollutants from the vehicle's exhaust) does not function at its peak until it reaches a temperature of between 400 degrees Celsius and 800 degrees Celsius. The best way to warm the catalytic converter is to drive the vehicle.
- A vehicle will emit a great deal more pollution if the catalytic converter is not performing properly - be sure to check the system regularly.
- Ten seconds of idling can use more fuel than turning off the engine and restarting it. If you're going to be stopped for more than 10 seconds (except in traffic) turn off the engine.
- Every 15 minutes of idling costs you up to 1/4 of a gallon in wasted fuel.
- Restarting a vehicle numerous times has little impact on your engine components.
- A poorly tuned engine will use up to 15% more fuel at idle than a properly tuned vehicle. Proper vehicle maintenance is a key to fuel efficiency and reduced emissions.
- A vehicle can emit up to 13% more pollution when idling with the air conditioning on.



No Idle Zone / Anti-Idling

Idling Reduction Fact Sheet

Air Quality

- Vehicle exhaust is the leading source of hazardous air pollution in the state of Washington. (National Transportation Library)
- In the past ten years, residents have increased the amount they drive by more than 70 percent. (National Transportation Library)
- Diesel exhaust contains microscopic soot, about 200 times smaller than the period at the end of this sentence. (Oregon DEQ)

Vehicle Operation

- One hour of idling burns up to a gallon of fuel. (Fuelmax Fuel Saving Tips)
- An idling engine delivers zero miles to the gallon.
- Drivers who shut off their engines, rather than idling for 30 seconds, benefit from both fuel savings and improved air quality. (average of recommended times from the U.S. EPA, Natural Resources Canada and Programs Europe)
- Frequent restarting has little impact on engine components like battery and starter motor. Wear caused by restarting is estimated to add \$10 per year to the cost of driving, money likely recovered several times over in fuel savings. (Natural Resources Canada)
- Excessive idling can be hard on your engine because it isn't working at peak operating temperature. Fuel doesn't undergo complete combustion, leaving spark plugs dirty and contaminating engine oil. (Oregon's Clean Air Action Day fact sheet)
- Idling isn't an effective way to warm up your vehicle in cold weather. Modern engines need no more than 30 seconds of idling on winter days before starting to drive. (Natural Resources Canada)
- Idling buses tested had higher concentrations of particulates and carbon than moving buses. (Environment and Human Health Inc. (EHHI))
- Queued idling buses had the highest levels of particulates and black carbon measured. Idling buses tend to accumulate diesel exhaust, which may be retained during the ride, depending upon bus ventilation rates. (EHHI)
- A bus idling for one hour a day during the school year adds the equivalent of 1,260 miles of wear on the engine. (Oregon Department of Environmental Quality (DEQ))

Impact on Health

- Each of us take 20,000 breaths each day. (American Lung Association)
- The average American breathes 3,400 gallons of air a day. (American Lung Association)
- Asthma is the third leading cause of hospitalization among children under the age of 15. (American Lung Association)
- Air pollution may account for five percent of hospital admissions for heart disease. (National Institute of Environmental Health Sciences (NIEHS))
- Toxic air pollutants account for an additional 700 cases of cancer for every million Washington residents. (American Lung Association)
- The World Health Organization reported in 2002 that three million people die each year from the effects of air pollution. (Earth Policy Institute)
- Airborne particulate matter (PM) consists of many different substances suspended in air in the form of particles (solids or liquid droplets) that vary widely in size. Particles less than 10 micrometers in diameter, that include both fine and coarse dust particles, pose the greatest health concern because they can pass through the nose and throat and get into the lungs.
- Overall mortality increases 0.5 percent for every 10 microgram per cubic meter increase in small